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ABSTRACT

Part of a series of instructional outlines intended for use in a training program for firemen with no previous formal training, this curriculum guide discusses the emergency treatment of thermal, chemical, and electrical burns. The topics covered are as follow: (1) evaluation of the degree and extent of the burn; (2) shock, its signs and treatment; (3) principles of cardiac-pulmonary resuscitation; (4) types of burns; (5) first aid for burns both generally and by specific types; and (6) special warnings for burn care. Lectures, discussions, charts, diagrams, demonstrations, and films are suggested as teaching methods for the course. Both a pretest and posttest are included as well as a bibliography. (EIG)

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FIRE SERVICE TRAINING:

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

IMMEDIATE CARE OF THE BURNED PATIENT

OBJECTIVES: Upon completion of this unit, a student will be able to:

1. Define in writing types of burns.
2. Describe in writing classifications of burns according to extent.
3. Calculate "rule of nines".
4. Recall signs and symptoms of shock.
5. Demonstrate ABC's of cardio-pulmonary resuscitation.
6. Use basic first-aid measures.

INTRODUCTION

A burn is one of the most severe injuries to which man is exposed. It is the purpose of this course to give the student a basic understanding of the principles and skills required for emergency treatment of thermal, chemical, and electrical burns. The methods used are lecture, discussion, charts, diagrams, demonstrations and films.

CONTENT

I. Evaluate seriousness of burn

A. Depth of burn-severity

1. First Degree

Characterized by redness, edema, and pain. There are no blisters.

2. Second Degree

Characterized by blisters and pain. The fluid comes from local vessels and cells due to increased circulation. It is carried away at a slower rate, thus the large fluid accumulation.

3. Third Degree

Characterized by massive edema, necrosis of tissue, and no blisters. The diagnosis of depth is sometimes difficult. There may be a combination of all degrees. The deeper the burn, the greater the damage.

B. Degree of burn - extent

1. The "Rule of Nines" is a simple method to estimate percentage of burn.

- | | |
|---------------------|-----|
| 2. Head | 9% |
| One Arm | 9% |
| One Leg | 18% |
| $\frac{1}{2}$ Trunk | 18% |

METHOD

Lecture
Discussion

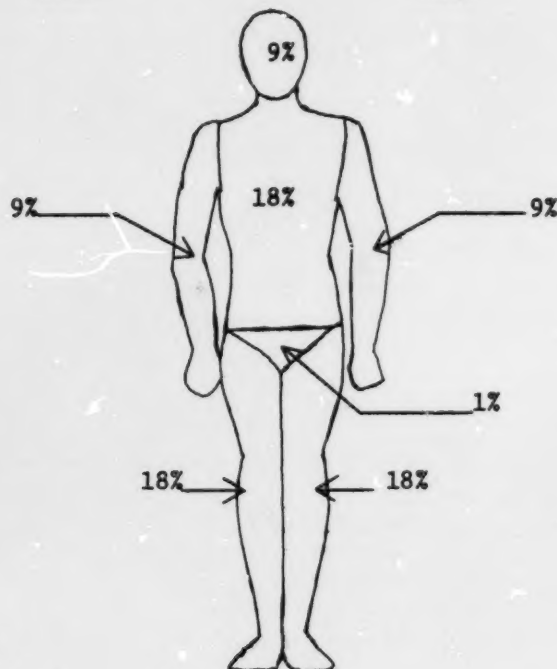
Transparency of
depth of burn.

Slides

Diagram

CONTENT

Neck or Genital Area - 1%
Total - 100%



II. Shock

A. Signs and Symptoms

1. Pale, cold, clammy skin. Lips, nail beds, and ear lobes may appear blue. Increased pulse and respirations.
2. In a state of shock, there is insufficient blood flow due to inadequate decreased return to the heart. Fluid accumulation in burns causes decreased return.

B. Treatment for Shock

1. Elevate feet, keep patient free from drafts and stimulation.
2. Burned patients need fluid replacement therapy as soon as possible and medications to relieve pain.

METHOD

Lecture

Discussion

CONTENT

3. Cardiac resuscitation for electrical burns due to shock to the heart and respiratory centers.

III. Principles of cardio-pulmonary resuscitation

- A. Patient airway
- B. Maintain breathing
- C. Maintain circulation

IV. Types of burns

A. Thermal

1. Due to excessive heat from house, stove, or car. Also, may be due to hot liquids or sunburn.

B. Electric

1. 3^o burn at point of connection of electrical current.
2. Current may cause damage to brain, heart, or respiratory system.
3. Make sure current is off, then remove victim.
4. If unsure, use wood or some non-conductive material to touch victim.

C. Chemical

1. Due to corrosive materials such as cleaning supplies or laboratory chemicals.
2. If an antidote is not known, it is always safe to flush with large amounts of water.
3. Anhydrous ammonia powder should always be dusted off prior to application of water.

METHOD

Chart
Demonstration
Manikin
Film, Either
"Pulse of Life"
"Prescription for
Life" or "Rescue
Breathing"

Lecture
Discussion

CONTENT

METHOD

V. First Aid for Burns

A. Thermal Burns

1. Position victim horizontally to prevent inhalation and further spread of fire.
2. Extinguish flames with water or smothering.
3. Give oxygen for inhaled smoke.

B. Chemical Burns

1. Immerse in water or flush with copious amounts of water to dilute and remove the agent.
2. Do not induce vomiting if chemicals are ingested.

C. Electrical Burns

1. Check heart rate and breathing.
2. Resuscitation may be necessary.

D. General Care for All Types

1. Treat shock, breathing and bleeding.
2. Remove clothing that is not directly burned into area.
3. Apply sterile or clean dressing loosely; this prevents constriction due to edema and prevents infection.
4. Apply cold water or ice packs immediately. This relieves pain and reduces edema. Ice packs are effective for 30 minutes; but, if burning reoccurs at environmental temperature, cooling should be resumed.
5. Transport to nearest medical facility.

Demonstrate
ice packs.

CONTENT

6. Give fluids only if the victim is conscious and if the nearest medical facility is two or more hours away. A good fluid replacement is 1 teaspoon salt; $\frac{1}{2}$ teaspoon baking soda to 1 quart of water.
7. Record any treatment and report to doctor in charge.

VI. Special Emphasis

- A. Do not clean burn.
- B. Do not break blisters.
- C. Never apply ointment, grease, butter, or antiseptics to burn. This causes greater tissue damage when trying to remove it.
- D. Do not remove clothing burned into area.

METHOD

Test

PRETEST

1. Define the degrees of burns.
2. What is Shock?
3. Why is shock important to you in giving first aid to a burned patient?
4. What are the ABC's of resuscitation?
5. True or False
 - T F A sterile dressing is important to combat infection.
 - T F A tight dressing reduces edema.
 - T F All clothing should be removed from a 3^o burn.
 - T F Apply an antiseptic to a burn to prevent infection.
 - T F Give fluids if the patient is conscious.
 - T F First aid includes covering the burn with a bland ointment.

POST TEST

1. State the classification of burns according to depth and briefly describe each.

a.

b.

c.

In the space indicated, state the per cent of burns as calculated by "Rule of Nines". This may indicate observation for shock.

2. _____ 3^o burns of face, anterior chest, abdomen, and arms.

3. _____ 2^o burns of legs.

4. _____ Flash burn of face and upper chest.

5. _____ Flash burns of hands and lower arms.

6. _____ 2^o burns of chest, abdomen, legs, and right arm.

7. Symptoms of shock include:

- a. Warm, dry skin
- b. Clammy, moist skin
- c. Rapid pulse
- d. Slow pulse
- e. Rapid, shallow respirations
- f. Deep, slow respirations

8. State the types of burns and any specifics applied to each.

a.

b.

c.

True or False

9. _____ A third degree burn is characterized by a reddening of the skin with no tissue destruction.
10. _____ First aid for burns includes covering the burn with a bland ointment.
11. _____ "Noisy" respirations should be considered as an indication of a partially obstructed airway.
12. _____ The blisters of a 2° burn should be opened to prevent fluid loss.
13. _____ A burn can be covered with a freshly ironed sheet.
14. _____ Ice relieves pain.
15. _____ The victim can be given fluids only if he is conscious.
16. _____ Cardio-pulmonary resuscitation is not usually necessary in electrical burns.

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